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GASTON BERGER
1896 - 1960

We have just learned of the death by accident of Mr. Gaston Berger, Member of the French Institute and Honorary Director General of French Higher Education (Directeur Général Honoraire de l'Enseignement Supérieur).

Born in 1896, a volunteer in the War of 1914, Gaston Berger spent a short time in the field of business before devoting himself to a long, brilliant teaching career. He was a professor in Philosophy at the University of Aix-en-Provence (1941), and at Buffalo University. In 1914 he was Executive Director of the Fulbright Commission for France, and in 1953 was made Director General of Higher Education and left this post only last year when he received the nomination for Director of Studies of the "Ecole des Hautes Etudes."

Mr. Berger, besides being a Member of the Academy of Ethical and Political Sciences and the Advisory Scientific Council to the Atomic Energy Commission, was also President of the International Center of "Prospective", and the Committee of the French Encyclopedia.

During his life, Mr. Berger's main fields of study and interest were Philosophy and Characterology. He was President of the International Institute of Philosophy, the French Society of Philosophy, and Director of the publication entitled, "Philosophic Studies" ("Les Etudes Philosophiques").

He held the rank of Commander of the Legion of Honor and received several war medals, among them the Croix de Guerre in 1914 and the French Resistance Medal. He had also been conferred four Honorary Doctorates by the University of Chicago, Syracuse University, Columbia University and Lafayette College.

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EDITORIAL by MONSIEUR EDOUARD MOROT-SIR

Cultural Counselor

Representative in the United States of French Universities

This new issue of Education in France is in large part devoted to the current situation of technical instruction in France. Our readers will perhaps be struck by the complexity and diversity of this education - the variety and independence of schools, an apparent absence of co-ordination despite a definite effort to inspire professors and students with a unity of spirit and a sense of the social role of technical training. To understand this state of fact, it is first necessary to remember that the technical schools developed gradually during the 18th and 19th centuries in order to meet various needs of the crafts and then of young industries. This education became conscious of itself for the first time with Victor Duruy, High Minister of Education under Napoleon III - who was able to foresee the immense future of this form of instruction and was the first to define the principles of a modern education coexistent with the traditional humanistic one. As a matter of fact, until 1940 the greatest handicap of technical instruction was this duality whose distant origin is the Greek distinction between liberal intellectual thought and servile manual labor, a distinction which reappears in the Middle Ages in a new perspective with the differentiation between the cleric and the laymen.

Thus especially in the last fifteen years and through governmental efforts, we have seen a systematic effort to rehabilitate technical education and increase its prestige. The means employed consist essentially in fighting against the prejudice that an education without Latin is third-rate and the refuge of poorer students, and consequently in organizing at the level of the "second degré" technical teaching parallel to classical and scientific instruction, with a similar status and subject to the same controls. Such is the point of departure of a reform which is being first applied to secondary schools and will surely spread to higher education. The recent creations of the "Direction Générale de l'Enseignement Supérieur" reveal this intention. In previous issues we have spoken of the Institut National des Sciences Appliquées in Lyon, of the Centres de promotion du travail, and also in a more general way of the initiative taken by the "Prospective" group which was formed by Gaston Berger to establish close ties between the universities, industry and commerce; today numerous examples of such co-operation are to be found in provincial centers like Grenoble, Marseille, Bordeaux, Nancy, Strasbourg, Lille, to mention only a few among many others. Finally it is fitting to relate this forward step in technical education to that other effort to decentralize French life, especially in the universities. Thus toward a same ideal of cultural and social progress converge basic scientific research; applied sciences relating to the national interest and local needs; the training of engineers and administrators, of skilled laborers and ap-

prentices; and research undertaken by the Institutes of Business Administration, created less than ten years ago and today expanding rapidly. In brief, technical education during these last years has acquired more intellectual unity, greater financial means for development and especially greater confidence in itself and in its future.

***

We have published some notes on the reopening of school in September and October, 1960. It must simply be pointed out that the general trends observed in previous years continue to manifest themselves and are even stronger today than yesterday; we shall restrict ourselves to mentioning them: the increase in the number of school children and students for two reasons, the demographic growth of the country and the ever greater number of children from farms and the laboring class entering secondary schools; then the progressive application of the reform of secondary education at the level of the classes of orientation (the reform aimed essentially at the first years in the "lycée" which should offer the child an opportunity to discover his tastes and talents rather than condemn him to a premature choice); a new reform of the "baccalauréat"; and finally, an ever greater number of students turning toward our "Facultés" of Science and our "Grandes Ecoles" for engineers. The shortage of classrooms and teachers has of course been discussed. Critical articles have been written; and with that passion which stirs the French when speaking of education, a university crisis has even been declared. And these remarks, criticisms, accusations and projects are all rooted in confidence in the bright future of French education. I shall not, I hope, be accused of boastfulness if I say that in the fall of 1960 the French university system under the high direction of the Minister of National Education, M. Louis Joxe, is full of life and dynamism.

Ed. Monod-Lys

TECHNICAL EDUCATION

HISTORY _ CURRENT REFORM _ THE FUTURE

HISTORY

In the Middle Ages the vocational training of workers and apprentices was insured by the corporations and was confined to practical training of apprentices by "masters". Until 1776, corporations recognized by the State were entitled to control the exercise of certain trades and the opening of shops. The system favored the "masters" and often made the apprentices' lot miserable.

Descartes and then Richelieu were interested in the vocational training of craftsmen, but it was Colbert, Louis XIV's minister, who played the role of precursor in the field of applied arts training. Colbert created the Manufacture des Gobelins and fostered the establishment of the Manufacture Boulle for the creation of fine furniture. As early as 1680 Jean Baptiste de la Salle founded several schools where "manual work and economic instruction were incorporated into Christian education". In 1709 with Abbé de la Chétardie he organized a first course for apprentices, open on Sundays from noon to 3 P.M.

After Turgot's attempt in 1776 to abolish the "maîtrise" and the "jurande" (a council composed of a certain number of masters of each trade, representing the supreme authority of each corporation - and controlling fulfillment of the clauses of "apprenticeship contracts"), these organizations disappeared due to the so-called Le Chapelier Law of March 2, 1791.

The first traces of technical training in its modern form are to be found in the important social and scientific movement which, toward the beginning of the XVIIIth Century, led savants, technicians and philosophers to the study of science and technical processes. Several names such as Reaumur and Vaucanson should be mentioned for this era. Credit goes to the Encyclopedists, to Diderot in particular, for trying to interest the general public in the teaching - by scientific methods - of trades and techniques. Paulet's experiments (the "Ecole de Popincourt for soldier's orphans in 1773), then the Duke of La Rochefoucauld-Liancourt's "Ecole de Liancourt" (which became the "Ecole d'Arts et Métiers" and was transferred in 1806 to Chalons-sur-Marne) mark the stages of this development.

Before the end of the XVIIIth Century advanced, technical schools were already in existence: the "Ecole des Ponts et Chaussées" and the "Ecole des Mines" (1763).

After the Revolution of 1789 the suppression of corporations led to the disintegration of apprenticeship. The idea of apprenticeship in school had not yet won the approval of educational reformers. The proposals of Condorcet, Lakanal and Lavoisier contained interesting solutions.

Founded by the Convention and installed by the Directoire, the "Conservatoire National des Arts et Métiers" quickly developed into an "advanced school for the application of scientific knowledge to commerce and industry". In 1820

the Ecole Supérieure de Commerce de Paris was created. Earlier, in 1781, Jean Koechlin and Thierry had established an "Académie Préparatoire au Commerce" in Mulhouse.

In his Industrial Catechism of 1823, Saint Simon wrote: "The industrial class must occupy the first row because it is the most important of all."

The Ecole Centrale des Arts et Manufactures was founded in 1829 by Dumas, Lavallet, Peclet and Olivier.

As for the vocational training of laborers, its development was due to the activities of the "Société pour l'Instruction Elémentaire", created in 1815, and to the measures provided by the Guizot Law of 1833.

Little by little schools with programs of a more and more practical nature multiplied in Paris and in the provinces: the "Ecole Turgot", the "intermediary schools", and the "special schools". The "Ecole La Martinière" opened in Lyon in 1831.

The Duruy Law of 1865 created Special Secondary Education, but manual training played too small a role in it.

During this era a series of private establishments was founded: the "Ecole Industrielle" of Le Havre (1866), the "Société pour l'Enseignement professionnel du Rhône" in Lyon, the "Ecole Centrale Lyonnaise", various private boarding schools for apprentices, the "Ecoles Elisa-Lemonnier" of the Paris region, etc. The "Association Philotechnique", created in 1848, soon had numerous subdivisions. Toward the end of the Second Empire, eighty cities had vocational schools, and vocational courses were being taken by about 33,000 students.

After the war of 1870, apprenticeship was the question of the day. The "Ecole Diderot", a model school for apprentices, was founded in Paris in 1872. This experiment ended in the law of December 11, 1880, which included among the public establishments of primary education: communal or departmental schools of apprenticeship and schools offering general instruction, including classes in vocational training.

It was not until after 1892 that the orientation of the national schools and private practical schools became clear. From this date on the higher primary vocational schools, which emphasize industrial and commercial training, have been under the Ministry of Commerce and bear the name of Practical Schools of Commerce and Industry.

At this time a hierarchy between the various categories of schools began to take shape. The "Ecoles d'Arts et Métiers" (formerly the "Ecoles d'ouvriers qualifies) henceforth trained engineers. The national vocational schools trained the future foremen. Yet the problem of apprenticeship was still far from an adequate solution.

The Law of July 25, 1919, the Astier Law, which is also called the "Charter of technical education", for the first time officially defined technical education: the establishments providing it, the organizations and authorities of control and

direction, the training's characteristics. In certain towns it made vocational courses compulsory for apprentices. It made it possible to improve apprenticeship in its three forms: in school, in the shop with attendence at vocational courses and in the shop after school with attendence at vocational courses.

The decree of January 20, 1920, associated Technical Education with the Ministry of Public Instruction. By the decision of September 18, 1944, the Direction of Work for the Young, the Apprenticeship Centers and the Services of Professional Orientation were placed under the Direction of Technical Education. In 1946 (the decree of May 5), the technical "baccalauréat" was instituted. Since the beginning of the century the accomplishments, reforms and improvements in this branch of teaching have been numerous. Yet the methods outlined by the precursors of the end of the XVIIIth Century were the ones which proved the most effective and were adapted and adopted for the organization of technical training.

* * *

CURRENT REFORM OF TECHNICAL EDUCATION

The ordinance and the decrees of January 6, 1959, specified "the ends and the means of the Reform of Technical Education". At the end of the "cycle d'observation" the pupils find themselves engaged in one of the following:

- *"Terminal Education" which, with the co-operation of the various vocations, completes the period of compulsory school attendance;*

- *The "Brief Technical Education" of the Apprenticeship Centers (henceforth designated as "High Schools of Technical Education");*

- *The "Brief General Education" of the Complementary Courses (henceforth "College of General Education");*

- *The "Long Technical Education" of the technical high schools and the national vocational schools (both called "Lycées Techniques");*

- *The "Long Classical or Modern Education" of the Classical or modern lycées".*

Of these methods of education, we shall define only those relating to technical training.

I. THE COMPLETION OF COMPULSORY EDUCATION - For a certain number of students, families want the last three years of compulsory education to complete and enlarge their children's general formation as well as prepare them to take an active part in adult life at the age of sixteen. This need is answered by several kinds of terminal education:

a) *IN THE COUNTRY*, agricultural training (for boys) and home economics (for girls), instituted by Article 3 of the Law of July 5, 1941, under the name of post-school agricultural and home economics training, are the most popular forms of

terminal education. They will be made more effective by strengthening and complementing general education by periods spent on carefully chosen farms and by a broad and concrete initiation to agricultural mechanics, now an essential aspect of farming.

b) *FOR OTHER RURAL YOUTHS*, terminal education will be associated with the formation of artisans in order to constitute one of the very necessary sources of country craftsmen to whom broad means for more complete technical training must be offered.

c) *IN THE CITIES*, where 75% of the young people now pursue their studies, the same combination of general formation and preparation for active life will be insured. It will provide for the training of urban artisans and the preparation of specialized industrial workers, through the collaboration of technical education and carefully chosen industries where training periods, included in the academic schedule, can be provided.

2. BRIEF TECHNICAL TRAINING - This training which, for capable young men, should always lead to "Long Technical Training", will continue to be insured by the Apprenticeship Centers, henceforth called "High Schools of Technical Training". Their well planned program, constantly adapted to economic needs and consequently to new developments, will be further improved on the basis of the comments and provisions presented in the reports of the "Commissariat au Plan" for equipment and modernization. In particular, a great effort should be made to make these establishments able to accept more of the young people who prove themselves capable of acquiring professional skill.

3. LONG TECHNICAL TRAINING - This training calls for definition of a prolonged technical program, already set up under the influence of previous reform projects with the approval and co-operation of the professions. it now has a hierarchical structure which will be further reinforced. It makes us able to affirm that no adolescent will be stopped at a level of preparation which, for the best students, is only a partial step. Actually, development is continuous from simple professional skill to the advanced training of the technician or engineer, training which a compulsory period on the job will reaffirm.

In thus deliberately setting up the possibility of constant advancement in the professional field, we give it an enhancement reaffirmed even in the prestige of words by the titles, "Technicien breveté" and "Technicien supérieur breveté". They tend to express the value of this training, to attract a large number of young people either directly or by encouraging them to branch off from general education as soon as their tastes and abilities are set in this direction. In fact, it must be mentioned here for it is an essential point, special divisions are to play transitional roles and assure students from schools of general education training adapted to the level of their previous studies.

These different points of the reform are being gradually applied.

* * *

THE FUTURE

THE ARMAND-RUEFF PLAN FOR EDUCATION: September, 1960.

The Comité Armand-Rueff was asked by the government to study the obstacles in the expansion of French economy. One of the obstacles mentioned is the existence of certain flaws in the present structure of the French system of education.

M. Armand-Rueff's plan goes further than this reform of Technical Training. His proposals are notably:

- to accelerate the formation of intercommunal rural academic groups (combining schools with too few students and by the same stroke organizing the "ramassage" of students. He would give these groups "cycles d'observation" which also benefit from organizations of "ramassage" as well as high schools of technical training which include agricultural sections.)

- to combine technical and agricultural training in the new vocational education by creating technical high schools and "lycées" which would include industrial and commercial departments and agricultural departments having a certain number of courses in common.

- to develop the formation of technicians and administrators.

- to orient higher education more toward satisfaction of the needs resulting from current evolution, by developing the means of access to universities and the "Grandes Ecoles" of candidates prepared by "promotion du travail" (experience on the job plus evening courses).

- to develop vocational centers for adults, the courses for work advancement and to encourage initiatives tending to institute associations for the cultural education of the public.

- to improve the vocational training of rural youths, by creating adult centers for specialized vocations (agricultural mechanics, for example); by furthering all efforts to organize training periods designed to develop technicians, administrators and technical popularizers; to back more effectively and control more strictly the centers of apprenticeship subsidized by the State.

* * *

PRESENT STRUCTURE OF TECHNICAL EDUCATION

CHAPTER I. General organization of technical education and professional orientation

- a) Technical education
- b) Professional orientation
- c) Establishments of technical education

CHAPTER II. The training of laborers, white collar workers, and foremen

A - The training of laborers and skilled office workers

- a) The apprenticeship centers
  - 1) Admission
  - 2) Tuition
  - 3) Duration of studies - Program
  - 4) Diplomas - opportunities
- b) Vocational training by business
- c) Vocational courses

B - The training of foremen

- a) The technical high schools, called "Lycées Techniques"
  - 1) Admission
  - 2) Tuition
  - 3) Majors
    - industrial instruction
    - economic instruction
    - social service training
    - hotel training
- b) The vocational schools of the city of Paris
- c) The sections of technical training in classical or modern "lycées"
- d) Trade schools

CHAPTER III. Training of technicians and engineers

A - Training of technicians

The National Schools

- 1) Admission
- 2) Tuition
- 3) Duration of Studies - Program
- 4) Diplomas - opportunities

B - Training of engineers

- a) The "Conservatoire National de Arts et Métiers"
  - 1) Organization and purpose of the training
  - 2) The technical institutes, the laboratory and the museum
- b) The "Ecole Centrale des Arts et Manufactures"
- c) The "Institut Supérieur de Matériaux et de la construction mécanique"
- d) The "Ecole Centrale Lyonnaise"
- e) The "Ecoles Nationales d'Ingénieurs des Arts et Métiers" and comparable schools
- f) The technical Institutes of universities

CHAPTER IV. Private technical schools

CHAPTER V. Training on the higher levels of technical education

- a) The "Ecole Normale Supérieure" of technical education
- b) The National Apprenticeship "Ecoles Normales"
- c) The "Institut National d'Etude du Travail et d'orientation professionnelle"

CHAPTER VI. Higher commercial technical education

- a) The "Ecole des Hautes Etudes Commerciales"
- b) The "Ecole de Haut Enseignement Commercial pour jeunes filles"
- c) The "Ecoles Supérieures de Commerce"
- d) The "Centre de Perfectionnement dans l'Administration des Affaires - CAPA

EVOLUTION DES EFFECTIFS D'ELEVES

Etablissements	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59
E.N.P. et E.N.E.T.	13.038	13.725	14.501	14.910	15.097	16.575	20.477
Collèges Techniques	69.397	75.458	79.498	84.615	85.877	95.606	98.309
Sections Techniques de lycées et collèges	22.554	23.420	23.583	22.814	25.114	24.897	27.430
Ecoles de Métiers	"	"	"	"	"	5.417	6.282
Sections Professionnelles de Cours Complémentaires	25.080	26.635	28.053	26.715	26.944	28.883	33.867
Centres d'apprentissage (à temps complet)	145.141	150.222	151.863	152.128	152.890	158.890	170.703
Centres d'apprentissage (à temps réduit)	8.118	8.730	11.894	15.549	19.382	19.764	19.467
Ecoles de Perfectionnement	11.290	11.342	8.313	5.440	2.639	2.925	2.777
Cours professionnels municipaux (1)	"	"	"	50.607	51.015	60.789	61.775

PRESENT STRUCTURE OF TECHNICAL EDUCATION

CHAPTER I. GENERAL ORGANIZATION OF TECHNICAL EDUCATION AND PROFESSIONAL ORIENTATION

a) TECHNICAL EDUCATION

Technical education, at first under the authority of the Minister of Commerce and Industry, has been attached since 1920 to the Ministry of National Education as are the other forms of education.

The Direction of Technical Education, its central and exterior services and its establishments are placed under the authority of the Minister of National Education, sometimes assisted by a secretary of State. In the different academies and "départements" the responsible authorities are the academy rectors and inspectors. The rector is assisted by a principal inspector of technical education who is his advisor, representative and delegate. To control the personnel of the Apprenticeship Centers, he has inspectors of technical education. These inspectors are also the advisors and representatives of the academy inspectors. At each academy there is, in addition, an inspector of professional orientation who, within his jurisdiction, has the task of inspiring co-ordinating and controlling the activities of the Services of Professional Orientation.*

Finally, technical education advisors, appointed by proposal of groups of employers and employees, exercise their honorary functions within the scope of the different professional activities of their jurisdiction. They assure liaison between the Administration and the professions and are this same Administration's spokesmen on vocational education.

b) PROFESSIONAL ORIENTATION

By the terms of the decree of September 23, 1922, Article I, "professional orientation is the whole series of activities under the responsibility of the Secretary of State for Technical Education, which precede the placement of young men and women in commerce and industry and which are designed to reveal their physical, moral and intellectual tendencies." Technical education is thus in charge of the services of vocational orientation which advise children, reaching the end of compulsory education, to choose a trade with reference to their tastes, aptitudes and family situation and the needs of the labor market. Centers of professional orientation have been created in nearly all the "départements", including the overseas "départements".

The number of children examined and advised has risen each year to more than two hundred thousand for the entire territory. The studies conducted in order to check the value of vocational orientation advice attest to the remarkable efficacy of this institution.

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*ACADEMY: THE MUNICIPAL INSTITUTION WHICH OVERSEES ALL THE EDUCATIONAL INSTITUTIONS OF A CITY.

c) ESTABLISHMENTS OF TECHNICAL EDUCATION

A particular type of establishment for technical education corresponds to each of the broad categories in the vocational hierarchy which are briefly defined below:

- Training of laborers and office workers: Apprenticeship Centers, henceforth called High Schools of Technical Education and included in Brief Technical Education.

- Training of foremen: Technical High Schools, henceforth called "Lycées Techniques".

- Training ot technicians: National Professional Schools; National Schools of Technical Education, henceforth called "Lycées Techniques"; "Lycées".

- Training of engineers, of those in the higher levels of commerce and of foremen: the "Conservatoire National des Arts et Métiers", the "Ecole Centrale Lyonnaise", the "Ecoles Nationales d'Ingénieurs des Arts et Métiers" and comparable schools, the schools of advanced commercial training, the "Ecoles Normales" of technical training.

CHAPTER II. THE TRAINING OF LABORERS, WHITE COLLAR WORKERS, AND FOREMEN

A. THE TRAINING OF LABORERS AND SKILLED OFFICE WORKERS

a) THE APPRENTICESHIP CENTERS

The Apprenticeship Centers, today called High Schools of Technical Education, are establishments for technical training of professional (or skilled) male and female workers and manual laborers for industry, trade and the crafts. The number of young people at the Centers has more than doubled since the Liberation.

1. Admission to the Apprenticeship Centers

Entrance to the centers takes place at 14, after the last year of compulsory education. Possession of the certificate of primary elementary studies is not necessary although children with diplomas can be admitted upon the approval of the Academy Inspector even if they are not 14 at the beginning of the school year.

According to the plans for their establishment, the Apprenticeship Centers should be able to admit all fourteen-year old applicants except in the case of marked unfitness. However, until now, there has not been enough room in most of the centers and it is very often necessary to make a selection by means which vary from academy to academy as do the number of openings and applicants.

2. Tuition

Admission is free. The parents pay only expenses for food or lodging when either is required.

3. *Duration of studies - Program*

The study program of the Apprenticeship Centers lasts three years. *During these three years, the students receive:*

- Practical instruction given in the shop, according to a methodical progression which confronts the boys little by little with the trade's problems;
- Instruction in technical theory (professional design, technology, etc.);
- General instruction (French, mathematics, history, geography, etc.) which reinforces and completes the education received in primary schools and is at the same time oriented toward professional life.

In the centers for girls, no matter what trade they learn, they are also given home economics instruction to prepare them for their future role as homemakers.

The Apprenticeship Centers currently open in France allow for apprenticeship in most of today's skilled vocations with each academy endowed in so far as possible with divisions corresponding to the needs of the most important industries of the region.

4. *Diplomas - Opportunities*

The usual diploma of the Apprenticeship Centers is the *Certificate of Vocational Aptitude*. Since the centers have been located with reference to the needs and essential activities of regions, in most cases the students readily find occupations which correspond to the trade they have learned.

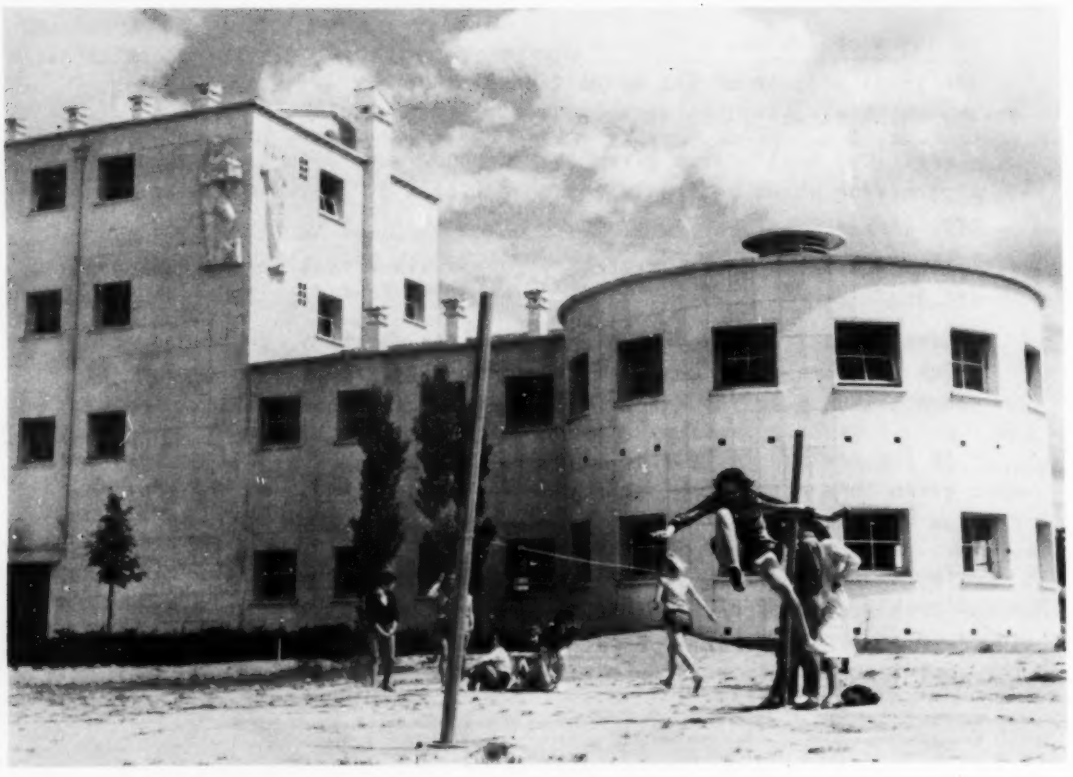
b) VOCATIONAL TRAINING BY BUSINESSES

Numerous industrial and commercial enterprises have become interested in the problems of the training of skilled labor and have organized divisions or centers of apprenticeship which constitute *real private vocational schools*.

They accept girls and boys who have completed their compulsory education, under conditions comparable to those of the Apprenticeship Centers, but in most cases after competitive examinations. The businesses themselves or the Services of Professional Orientation send out documentation concerning these organizations.

c) VOCATIONAL COURSES

Public schools and the schools of private enterprises offer instruction in both theory and practice. However, many craft, industrial or commercial enterprises have not been able to organize special apprenticeship divisions by themselves. To fill this gap, compulsory vocational courses (Astier Law) have been organized for boys and girls under 18 who are employed in commerce or industry. These professional courses are either municipal or organized by private professional groups.



The "Ecole Nationale d'Enseignement technique" of Montluçon
Boarding school with kitchen

B. THE TRAINING OF FOREMEN

a) THE TECHNICAL HIGH SCHOOLS CALLED "LYCEES TECHNIQUES"

Their purpose is to train laborers and office workers capable with age and experience of becoming foremen or heads of departments.

The normal period of studies is four years for boys and three years for girls. The schedules, which vary according to majors, often include as many as 40 or 42 hours a week. They are divided between work in the shop or commercial office and general education: French, history or geography, mathematics, science, living languages, technology, commercial design and art.

The part played by practical vocational training is smallest in the beginning classes and increases from year to year as the physical strength of the students develops.

1. Admission

The technical high schools offer a general education completed by an initiation to technical processes designed to awaken the interest of the students and pinpoint their aptitudes.

2) Tuition

There is no tuition for study in the technical high schools.

3) Majors

Instruction at the technical high schools includes majors in either industry, economics and commerce, the social services, or hotel work. One institution may comprise various depart ents.

INDUSTRIAL INSTRUCTION

Industrial training for girls is currently divided into three years of study. It leads to the *"Brevet d'enseignement industriel"*. Aside from the skills related to the sewing and fashion industries, certain girls' technical high schools offer preparation for careers as chemical assistants, technical secretaries for engineers and pattern cutters.

Industrial training for boys today includes four years of study. At the end of the last year (during which the students can be called upon for training periods in industry) they take examinations for the *"Brevet d'enseignement industriel"*.

Some technical high schools include "technical-mathematical" classes in which the students can prepare for the entrance examinations to technical schools of a higher level, in particular the "Ecoles Nationales d'Ingénieurs des Arts et Métiers". This preparation also allows them to take examinations for the "baccalauréat technique". Other technical high schools have "special" classes which prepare for certain technical activities (smelting, chemistry, industrial design, etc.).

ECONOMIC INSTRUCTION

1) General economic instruction
2) Basic vocational training: stenography, typing, business, accounting
3) Properly so-called commercial instruction: accounting, commercial office work, stenographer/typist.

The diploma for studies in the economic sections is the *"Brevet d'enseignement commercial" (B.E.C.)*.

SOCIAL SERVICE TRAINING

This instruction is designed to prepare people for the administrative tasks which the functioning of social services entails. As well as a solid general education, it aims to give the scientific training and professional initiation necessary for ultimate specialization as: a social service secretary, a medico-surgical secretary, a social service aide.

The diploma for studies in these sections is the *"Brevet d'enseignement social"*.

HOTEL TRAINING

Hotel training includes four years of study. In the first and second years, all the students receive the same basic training in economics. In the third, there are two choices, one technical, the other administrative. The students from both groups still are taught the same subjects, but according to different schedules. Thus the students of the administrative division spend more time than those of the technical section on business, accounting, commercial law, etc., and less time on the workings of the kitchen and restaurant. Certain hotel schools have experimental

hotels where the students learn their trade in real situations.

There is a hotel division for girls at the Technical High School for Girls in Clermont-Ferrand. The hotel schools of Paris and Grenoble also admit girls.

The hotel program leads to the *"Brevet d'enseignement hôtelier"*.

b) THE VOCATIONAL SCHOOLS OF THE CITY OF PARIS

These schools are technical high schools in which the level of candidates is considerably higher than that of ordinary technical colleges. Admission is competitive. Several of these schools are actually schools of applied arts:

- *Ecole Estienne* (arts and industries relating to books)
- *Ecole Boulle* (furniture arts and industries)
- or *schools of arts applied to industry:*
  for boys: *Rue Dupetit-Thouars*
  for girls: *Rue Duperré*

Still others are the sources of future technicians: the *Ecole Diderot* (the oldest one) prepares technicians for general mechanics, precision mechanics, clock-making, electricity, industrial design; the *Ecole Dorian* for general mechanics, carpentry, iron works, glass works.

"Ecole Boulle" - The Tapestry Studio

Most of the institutions for girls are devoted to dressmaking and fashion trades. Some of them have commercial sections and one of them, the Technical High School of the Rue d'Abbeville, is completely specialized in economic studies.

Annual enrollment in these schools is about 6,000.

c) *THE SECTIONS OF TECHNICAL TRAINING IN CLASSICAL OR MODERN "LYCEES"* or high schools and the vocational sections of the "Complementary Courses".

The conditions for admission, the programs and the level of studies of these sections, created within the "lycées", high schools or "Complementary Courses" are the same as for the technical high schools.

d) *TRADE SCHOOLS*

These schools, which are comparable to the technical high schools with regard to the conditions for admission and study, specialize in the preparation for a certain number of well-defined professions, as: photography and movies, carpentry, weaving, construction, shoemaking, binding, plumbing. They often have been created by professional organizations which continue to run them with the help and under the control of Technical Education.

CHAPTER III. TRAINING OF TECHNICIANS AND ENGINEERS

A. THE TRAINING OF TECHNICIANS: The National Professional Schools

The national professional schools are the most highly specialized institutions for training technicians. For the boys they are also perfect for preparation for the "Ecoles Nationales d'Ingénieurs des Arts et Métiers", for other technical engineering schools or other specialized technical schools or institutes. According to the level of instruction, the national professional schools rank between the "Ecoles Nationales d'Ingénieurs des Arts et Métiers" and the technical high schools (the technical high schools of the City of Paris excepted).

All expenses for these public schools are met by the State.

In general, they prepare boys for the mechanical industries and girls for industrial, commercial and social service professions. Some of them have one or several specialized sections: for boys, clock-making in Besançon and Lyon; the making of optical instruments in Morez, of plastics in Oyonnax; and precision mechanics in Cluses, etc; for girls, hotel work in Bourges; training as chemical assistants in Strasbourg, Lyon and Vizille; social economics in Strasbourg and Vizille; medical laboratory work and radio manipulation in Strasbourg; and services applied to industry in Lyon.

The national professional schools for boys include, in addition to the regular sections, special divisions in which the best students are prepared for the competitive entrance examinations for the "Ecoles nationales d'Ingénieurs des Arts et Métiers" and for the technical "baccalauréat". In their regular sections the national professional schools, which admit students aged 13 to 17 after competitive examinations, prepare them for the "Brevets" in industrial, commercial and social service education and offer the diploma of a certified graduate of the national professional schools. In most of the national professional schools, after the usual period of study, years of specialization for certain activities make it possible to learn techniques of a higher level.

1. Admission

Admission to the national vocational schools takes place between the ages of 12 and 16.

2. Tuition

Tuition is free, but at the time of registration parents accept the responsibility of expenses for food and the student's equipment.

3. Duration of studies - Program

The program of the national professional schools takes 5 years. At the end of the second year the students, with the approval of the council of professors, chose either the vocational sections or the theoretical ones (preparation for the competitive entrance examinations for the "Ecoles Nationales d'Ingénieurs des Arts et Métiers", for the technical "baccalauréat" A, for industrial majors, for the "brevet supérieur" in commercial studies and the technical "baccalauréat" B for commercial majors).

4. Diplomas - Opportunities

At the end of their school program the students of the technical industrial and commercial sections, if they have obtained certain averages, receive the *Diploma of a certified graduate of the national professional schools*. The students of the theoretical sections take the entrance examination for the "Ecoles Nationales d'Ingénieurs des Arts et Métiers", the technical "baccalauréat" A, or the technical "baccalauréat" B.

Graduates from the national professional schools can 1) enter industry or commerce where their training generally makes it possible for them to advance rapidly and where they can obtain positions as technicians, 2) continue their studies in the various institutes or schools which they enter through competitive examinations or on the basis of their previous credits, 3) prepare for administrative competitive examinations for access to technical positions (departments of bridges and roads; aeronautics; post, telephone and telegraph).

Class in electronics
Champs-sur Marne

8. THE TRAINING OF ENGINEERS

a) *THE "CONSERVATOIRE NATIONAL DES ARTS ET METIERS"*

1. Organization and purpose of the training:

The "Conservatoire National des Arts et Métiers" is a real technical university. It includes advanced instruction in the applied sciences and economics, specialized institutes, the "Musée Technologique de France", the "Laboratoire National d'Essais" and the "Institut aérotechnique".

The courses, open to the public without degree requirements, are conceived with the intention of shedding light on industrial or economic activities through advanced scientific knowledge. Given after 6 P.M., Saturday afternoon and Sunday morning, they are designed for working men, engineers, technicians, laborers or office workers who are eager to learn or desirous of completing their technical documentation with the most recent facts.

The professors of science direct laboratories where research is done on scientific problems presented by industry. Practical experiments for the training of technicians for industrial laboratories and engineering offices are organized for approved students after examination. A suitable combination of course certificates and laboratory certificates qualifies one to apply for an engineer's diploma from the conservatory, for which candidates must sustain a thesis on a personal experiment carried out in the laboratory. The "Conservatoire des Arts et Métiers" is the center best adapted to the training of engineers for industrial laboratories.

In order to extend the benefits of this advanced training to the provinces, centers associated with the "Conservatoire National des Arts et Métiers" are being founded in large cities. With the approval of the Conservatory they award certificates of the same value as the Conservatory diploma. The first two centers have been created in Lille and Lyon.

The Conservatory's very important library which is open to the public, contains the principal French scientific works and the major scientific, technical and economic reviews published since the beginning of the 19th century.

2. The technical institutes, the laboratory and the museum:

Since 1932 the complex training required for certain professions has led to the foundation at the Conservatory of institutes which complete the regular training by lectures and experiments done by specialists. The institutes include:

- The *"Institut National des Techniques Economiques et Comptables"*, associated with the economic professorships (commercial law, economics and statistics, the scientific organization of work) for the training of expert accountants;
- The *"Institut de Topometrie"*, which trains expert geometrists with the help of the photogrammetry section;
- The *"Institut Français du Froid Industriel"* for the preparation of engineers in refrigeration;

- The *"Institut national des Techniques de la Documentation"*, which trains documentation experts for either industrial or commercial services.

- The *"Institut Technique de Banque"* which is designed to give advanced instruction in economics and in banking and financial techniques, through courses in economics, banking, and the organization and functioning of financial markets. The instruction is completed by case studies and specially organized lectures. The institute offers the diploma of advanced studies in banking.

- The *"Centre d'Etudes de l'Usinage des Metaux"* for the training of technicians who use machine tools, an indispensible complement to the study of mechanics and metallurgy.

- The *"Institut National d'Etude du Travail et d'Orientation Professionnelle"*, which trains vocational advisors in co-operation with courses in the physiology of work and professional orientation.

- The *"Institut de technique sanitaire et d'hygiène speciale des industries"* which takes care of the professional development of technicians for the various branches of sanitation and confers a certificate for sanitation technicians and a diploma of advanced studies in sanitation techniques.

- The *"Ecole supérieure des géometres et topographes"* which grants a diploma for expert geometrists.

- The *"Ecole Nationale d'Assurances"* which co-ordinates the activities and the teaching of the various organizations which offer instruction in insurance.

- *The Museum*, founded in 1794 by the "Convention Nationale" on the basis of Abbe Gregoire's report, as a depository of models and designs of machines, inherited the collections assembled for the king by the illustrious Vaucanson. These collections, constantly enriched, today constitute the world's most important museum for the history of technical processes. The Museum is open to the public every day, and the professors of the Conservatory use these precious models in their courses.

- The *"Laboratoire d'essais"*, including the depository of the national standards of the metric system, was assigned by the law of 1901 the task of doing physical, chemical and mechanical tests and controls for whoever requests them. It is the French bureau of standards, which continues the work of Tresca, General Morin and Saint-Claire Deville who created the methods of testing materials at the Conservatory and directed the work of the International Convention of the Meter. The activities of the Testing Laboratory are constantly increasing because industrialists more and more confer upon it the responsibility of solving the exceptional problems of measures and control which require the invention of apparatuses and special research.

- The *"Institut aérotechnique"*, housed at Saint-Cyr in the buildings constructed by Deutsch de la Meurthe, is equipped for aerodynamic and hydrodynamic testing.

The "Conservatoire des Arts et Métiers"
Entrance and Library

b) *THE "ECOLE CENTRALE DES ARTS ET MANUFACTURES"*

This school, founded in 1829 by four eminent men, including the great chemist Jean-Baptiste Dumas, moulds by its fine scientific and technical instruction industrial administrators and engineers for all the great industrial enterprises, public works and the services of the State. The school's program takes three years. It grants the *"Diplôme d'Ingénieur des Arts et Manufactures"*.

The students are selected after competitive examinations from among the young men and women taking special mathematics courses. Foreigners are admitted either after competitive examinations like the French student's or on credits; in the latter case they begin the first year as probationary students and continue their studies as regular students if they obtain a high enough average. They can also enter as auditors but are then unable to obtain the engineer's diploma. The school each year trains from 220 to 230 engineers, with 24 the average age at graduation.

The first year of study includes basic scientific courses in mathematics, physics and chemistry on a level about equal to that of the "certificats de licence" corresponding to higher education. The students then take scientific courses more directly concerned with the art of the engineer. Their training is finally completed by more specifically technical courses concerning all the branches of industry and by lectures on the social and economic problems of industrial life. Case studies, judiciously chosen, illustrate the application of the courses, and weekly oral tests keep the students up to date, making their work continuous and regular.

The students are required to take the whole program of instruction and do not specialize until their entrance into industry. *It is this high general culture which characterizes the school and is the basis of the success of engineers from "Arts et Manufactures".*

c) *THE "INSTITUT SUPERIEUR DES MATERIAUX ET DE LA CONSTRUCTION MECANIQUE"*

Founded in April, 1948, this institute accepts engineers from the "Grandes Ecoles" or the universities, who have already acquired a certain amount of experience in industrial practices. Its purpose is to give them very great skill in everything that concerns the characteristics of materials and their use in mechanical construction.

d) *THE "ECOLE CENTRALE LYONNAISE"*

This establishment which the Law of August 21, 1947, ranked among the "Ecoles Nationales Supérieures de l'Enseignement Technique", trains engineers with broad scientific backgrounds in the course of three years of theoretical and technical studies. The school has very well equipped laboratories, testing centers and shops. Admission takes place through a competitive examination at the level of the classes of higher mathematics in the "lycées".

e) *THE "ECOLES NATIONALES D'INGENIEURS DES ARTS ET METIERS" and comparable schools*

The "Ecoles Nationales d'Ingénieurs des Arts et Métiers" train engineers accustomed to the practice of mechanical arts and ready to specialize rapidly in

all branches of engineering. Admission takes place after a competitive examination similar to that of the technical mathematics "baccalauréat", but on a much higher level. The number of candidates accepted is established by ministerial decree. The students can receive scholarships or honor loans. The program takes four years. The first three are spent in the five provincial schools: Aix, Angers, Chalons-sur-Marne, Cluny and Lille. The fourth year assembles all the students in Paris.

Opportunities are numerous for graduates from "Arts et Métiers" who represent over a quarter of all French engineers. Their services are particularly appreciated in industry for their very solid training makes a happy alliance between practice and purely scientific knowledge.

The "Ecole Nationale Supérieure de céramique" of Sèvres, the "Ecole Nationale des Arts et Industries Textiles" in Roubaix, the "Ecole Nationale d'Ingénieurs" in Strasbourg, the "Ecole Nationale de Radiotechnique et d'Electricité Appliquée" in Clichy, the "Institut Industriel de Maison-Carrée" in Algiers are institutions in a category corresponding to that of the "Ecoles d'Ingénieurs des Arts et Métiers".

The "Ecoles Nationales d'Ingénieurs des Arts et Métiers" and these comparable schools train 2,700 students. Admission is made after a difficult competitive examination. The level of scientific knowledge taught in these schools is similar to that of the other national engineering schools; in addition, they offer very thorough courses in mechanical construction. Many students from the "Ecoles Nationales d'Ingénieurs des Arts et Métiers" can, without any special complementary instruction, acquire "diplômes d'enseignement supérieur".

f) THE TECHNICAL INSTITUTES OF UNIVERSITIES

Applying the decree of January 16, 1947, the Direction of Higher Education, associated with the Direction of Technical Education, transformed university institutes into "Ecoles Nationales Supérieures d'Ingénieurs". These schools train engineers in different specialities, with their scientific education very often reinforced by the possession of a "certificat de licence", a diploma of higher studies or the doctorate in science.

Institutes for accounting techniques have been created for the professional formation of expert accountants, also in agreement with the Direction of Higher Education; the function in connection with the universities of Paris, Toulouse, Lyon, Lille and Bordeaux.

CHAPTER IV. PRIVATE TECHNICAL SCHOOLS

As in all the other areas of education in France, private groups or individuals can, under certain conditions, open establishments of technical education. Recognition by the State can be accorded upon the approval of the Council of Technical Education after an administrative inquiry. Such is the case of numerous important and renowned establishments belonging to three different levels of professional education: *the training of specialized laborers, technicians and industrial and commercial administrators.* There are a certain number of private schools which grant an engineering degree. In accordance with the Law of July 10, 1934, these schools are listed by the Commission on the Engineering Degree, which is under the Direction of Technical Education.

CHAPTER V. TRAINING ON THE HIGHER LEVELS OF TECHNICAL EDUCATION

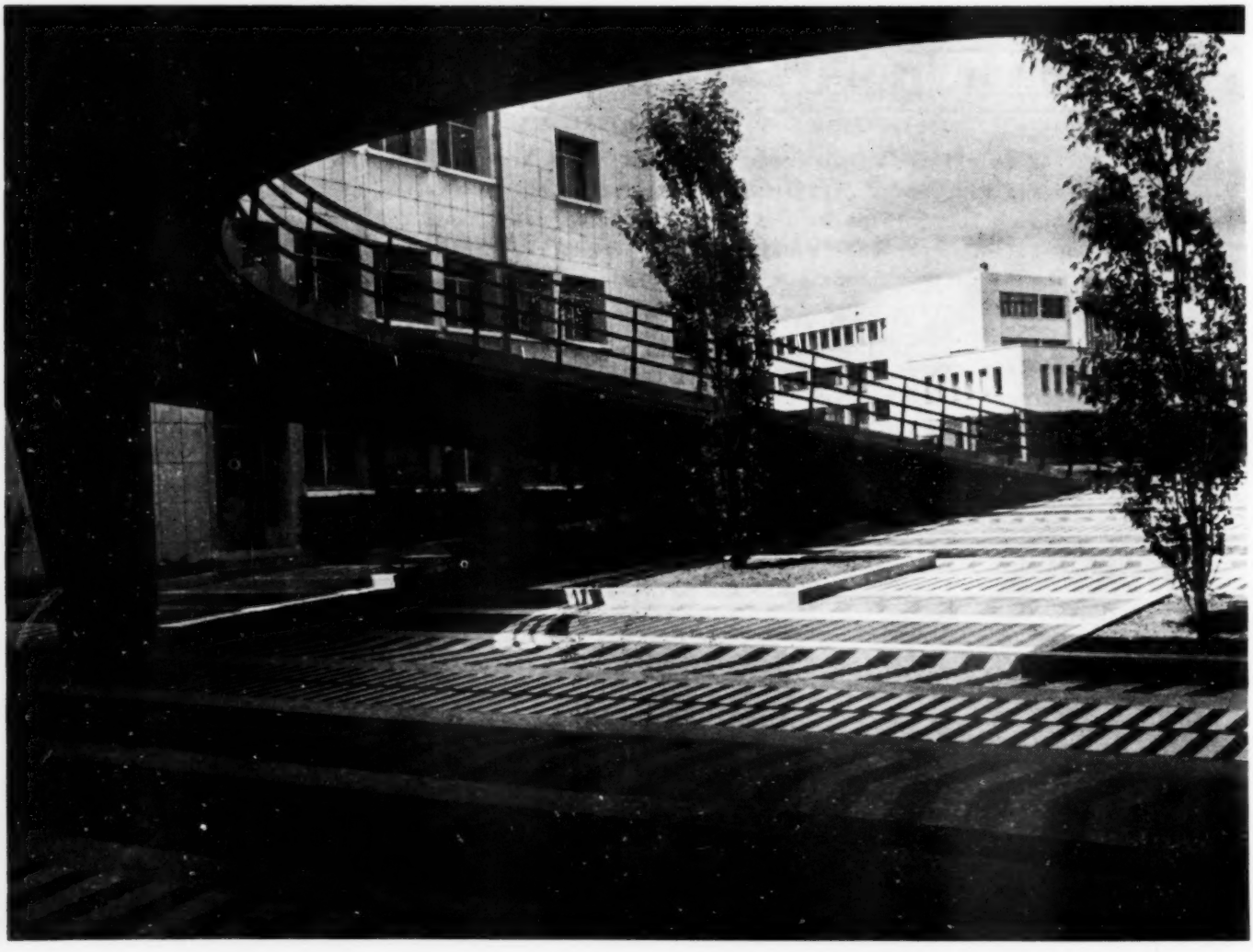
a) *THE "ECOLE NORMALE SUPERIEURE" OF TECHNICAL EDUCATION*

Established in 1912, this school trains professors (men and women) for the technical high schools and national professional schools. Its eight sections prepare teachers for the various fields:

A-1: Industrial Sciences
A-2: Industrial Sciences and Arts
B : Industrial Design
C : Applied Design and Arts
D : Economic Sciences and Techniques
E : French, History and Geography
F : Living Languages, French
G : History, Geography, French

The program takes three years. As for the other "Ecoles Normales Supérieures", students are admitted after a competitive examination in the first year. A competitive examination for direct admission in the third year has been instituted for engineers, licentiates and those holding equivalent degrees.

The "Ecole Normale Supérieure" of technical education forms a bond between Higher Education on one hand and the world of industry and commerce on the other. Practical training periods, organized for all third-year student professors, put them in contact with the realities of industrial and commercial life. They are compulsory as is practice teaching, and are part of the requirements for candidates to the various professorships.



The "Ecole Normale Supérieure de l'Enseignement Technique de Cachan"

b) *THE NATIONAL APPRENTICESHIP "ECOLES NORMALES"*

Recently created, these schools are for the training of professors of general education and of the personnel for professional instruction at the Apprenticeship Centers. Admission is made through national competitive examinations. The period of study is one year. The students are given complementary theoretical and technical instruction. There are now three national apprenticeship "Ecoles normales" for boys in Paris, Lyon and Nantes; and two for girls, in Paris and Toulouse.

c) *THE "INSTITUT NATIONAL D'ETUDE DU TRAVAIL ET D'ORIENTATION PROFESSIONNELLE"* and the "Institut de Biometrie humaine" of the University of Aix-Marseille.

In two years these establishments, the first of which is an institute of the "Conservatoire National des Arts et Métiers", insure the preparation of candidates to the State diploma of "Counselor of Professional Orientation". They are true schools of higher education in full function.

CHAPTER VI. HIGHER COMMERCIAL TECHNICAL EDUCATION

a) *THE "ECOLE DES HAUTES ETUDES COMMERCIALES"*

This school was founded in 1881 by the Chamber of Commerce of Paris which is responsible for its administration, and was recognized by the State in 1890. For commerce it plays a role comparable to that for industry of the "Ecole Centrale des Arts et Manufactures"; it assumes responsibility for training the highest level of administrators and executives for commercial, industrial and financial enterprises in France.

These courses are designed for students who have reached the end of their secondary studies and are chosen by a difficult competitive examination. The school's program takes three years. A competitive examination for direct admission to the second year is open to former students of the "Ecoles Supérieures de Commerce" as well as to graduates of the commercial academy for foreign students which is a section of the "Ecole des hautes études commerciales".

The school's program leads to the *"Diplôme des hautes études commerciales"*, awarded students who have obtained a general average of 13/20 during their period of study. A large proportion of these young men also have a law degree.

In addition to the commercial academy for foreign students mentioned above, the "Ecole" includes a school for interpretors and translators, created in 1947 for the professional training of interpretors and translators of high quality for the United Nations and other international organizations.

b) *THE "ECOLE DE HAUT ENSEIGNEMENT COMMERCIAL POUR JEUNES FILLES"*

This is an establishment of higher technical training recognized by the State and functioning under the aegis of the Chamber of Commerce of Paris. In three years of study there, girls who have completed their secondary education acquire a technical, economic, juridical and sociological background which offers them opportunities in administration in commercial, industrial and financial enterprises. Their studies are crowned by a diploma granted by the Minister of National Education.

c) *THE "ECOLES SUPERIEURES DE COMMERCE"*

The "Ecoles Supérieures de Commerce", recognized by the State, are "establishments of higher technical instruction, designed to train the heads of various commercial or financial enterprises and the higher administrative levels of these enterprises or of the administrative and commercial services of industrial enterprises". This text is from the decree of June 14, 1946, which defines the purpose of the "Ecoles supérieures de Commerce". The period of study is three years.

d) *THE "CENTRE DE PERFECTIONNEMENT DANS L'ADMINISTRATION DES AFFAIRES"*

This organization, founded in 1930 by the Chamber of Commerce of Paris, and recognized by the State in 1932, is situated on an entirely different

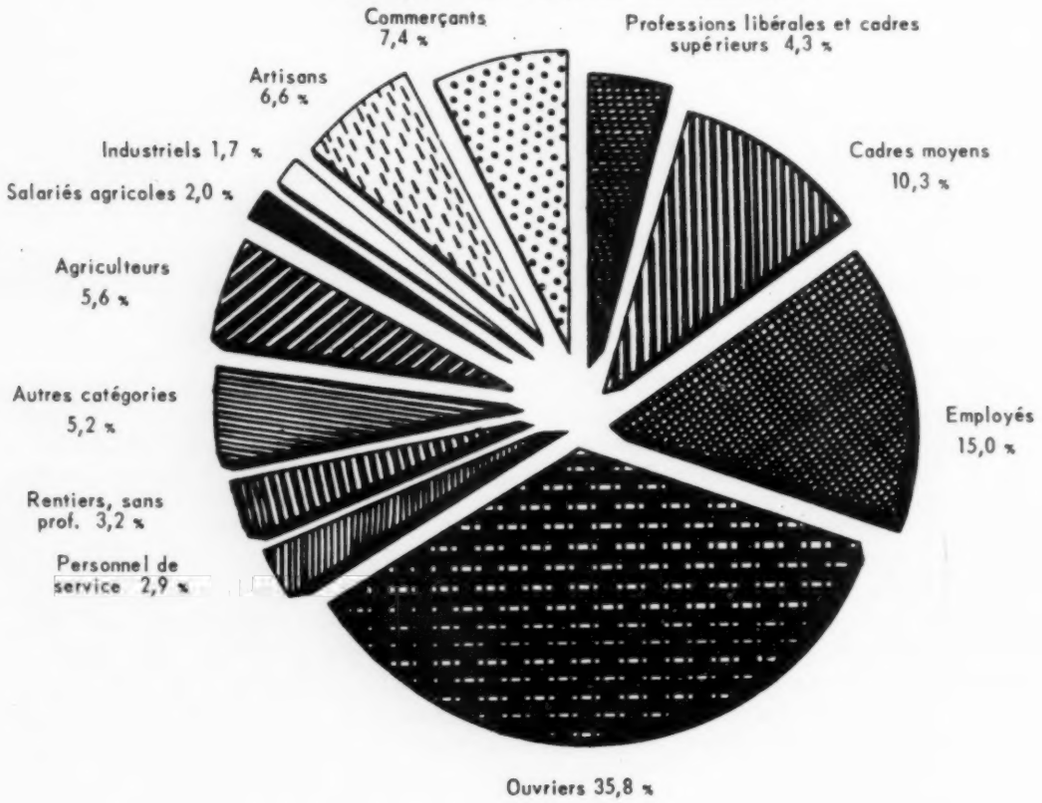
level than that of the educational establishments. Its purpose is to afford a select group of young men, chosen among the higher administrators of the business world, an opportunity to extend and deepen their experience as well as increase their knowledge.

The number of openings is limited; the candidates whose average age is over 30 are in the majority of cases graduates of the "Grandes Ecoles" or of higher education already involved in professional life for several years.

The period of instruction which is given evenings after work and Saturday afternoons is nine months; the studies are recognized by a diploma bearing the official stamp.

ORIGINE SOCIALE DES ELEVES - CLASSE DE 4e

Enseignements industriels et économiques



THE REOPENING OF SCHOOLS - 1960

PRIMARY, SECONDARY AND TECHNICAL EDUCATION

DOMINANT TRAITS:

1) The educational reform was applied for the first time and included:
- *the first term without Latin for all pupils of the "6e cycle d'orientation" (6th grade);*
- *reorganization of the "baccalauréat";*
- *application of the law for aid to private schools.*

2) 220,000 more students than last year; 30,000 more in the primary schools; 65,000, in the complementary courses; 55,000, in the "lycées" and classical high schools; 35,000, in technical education.

3) A constant increase in the number of students continuing their studies following completion of the "premier degré": 36,000 new students in 6e this year.

4) Preparatory classes for the "Grandes Ecoles" are overcrowded.

5) The great problem in all the forms of education remains the lack of classrooms and teachers.

A FEW STATISTICS:

A record figure this year for the reopening of school: 9,560,000 students in 1960, or nearly 1/4 of the French population. Eleven million students are estimated for 1970.

Table of Students, 1960

	Année scolaire 1959-1960			Année scolaire 1960-61 (prévisions)		
	Public	Privé	Ensemble	Public	Privé	Ensemble
ENSEIGNEMENT DU PREMIER DEGRE						
- Classes maternelles et enfantines . .	1 102 000	165 000	1 267 000	1 132 000	166 000	1 298 000
- Classes primaires élémentaires . . .	4 907 000	812 000	5 719 000	4 905 000	804 000	5 709 000
- Cours complémentaires	477 000	120 000	597 000	542 000	131 000	674 000
Total	6 486 000	1 097 000	7 583 000	6 579 000	1 101 000	7 681 000
ENSEIGNEMENT DU SECOND DEGRE						
- Classes secondaires et classes préparatoires aux grandes Ecoles	699 000	275 000	974 000	755 000	294 000	1 049 000
dont l'enseignement par correspondance	(16 000)		(16 000)	(10 000)		(18 000)
- Sections techniques	28 000	13 000	41 000	30 000	13 000	43 000
- Classes primaires	68 000	179 000	247 000	65 000	178 000	243 000
Total.	795 000	467 000	1 262 000	850 000	485 000	1 335 000
ENSEIGNEMENT TECHNIQUE						
- Ecoles nationales professionnelles et collèges techniques	138 000	35 000 (2)	173 000	156 000	40 000	196 000
- Centres d'apprentissage à temps plein	183 000	100 000 (2)	283 000	198 000	110 000	308 000
- Centres d'apprentissage à temps réduit et écoles de perfectionnement .	21 000		21 000	21 000		21 000
- Enseignement par correspondance . . .	14 000		14 000	16 000		16 000
Total.	356 000	135 000	491 000	391 000	150 000	541 000
Total général.	7 637 000	1 699 000	9 336 000	7 820 000	1 736 000	9 557 000

THE *"1er DEGRE"* (primary education) is thus characterized by a slightly lower number of pupils in the primary classes. On the other hand, there is an increase in the number taking the complementary courses called "High Schools of General Education".

A rather large number of new classes:

Infant classes	- 1540
Primary classes	- 8890
Paris	- 90
The suburbs	- 558

The shortage in titular professors remains very important:

Instructors' posts	- 190,000 in all
Posts for assistants	- 30,000 in all
Posts to be filled	- 2,000

THE "SECOND DEGRE"

A new increase in the number of students must be noted. To make room for them:

Regular classes provided: 2,300
Special classes (drawing, sciences): 1,150
Dining facilities for: 21,750 students
Sleeping facilities for: 15,870 students
Classes in "préfabriqué": 453.

In the "second degré" as well, the shortage of titular professors is remarkable. Total number of professorships: 35,000 (as opposed to 30,000 last year). Posts to be filled: 2,200.

TECHNICAL EDUCATION

There also, an increase in the number of students.

Establishment of numerous apprenticeship centers: 870 (against 359 for 1959).

Classes for the national professional schools and technical high schools: 584.

There is an acute shortage of teachers: 1/3 of the posts are occupied by non-titular professors.

* * *

THE REOPENING OF UNIVERSITIES

(excerpt from an article by J. Guilhem)

Last year there were 231,000 students at the "Grandes Ecoles". This year 243,000 are expected. This increase in number is the result of the larger percentage of French youths pursuing higher education. From 1964 on statistics foresee the arrival at the "facultés" of 55,000 to 60,000 students. In 1970 higher education will include nearly 650,000 students.

CONSTRUCT AND DECENTRALIZE:

The University of Paris alone takes in a third of these students. University decentralization and the development of regional universities have become more and more urgent. The race is on between the Direction School Construction and the demographic waves. The builders have not yet won, but the magnificent realization of the "Halle aux Vins" proves that they work without respite.

TEACHERS:

The problem of finding enough professors is very serious. This year there are 9,870 teachers in all grades as opposed to 8,300 in 1959:

3,850 professors, "maîtres de conférences" and "charges d'enseignement"
4,420 assistants
1,600 monitors.

The recent creation of the post of "assistant master" which replaces that of the "chefs de travaux" will have a fortunate influence upon the efficacy of the teaching program by affording close contact between the student and his professor.

1500 teachers' posts had to be created this year. 1500 will have to be created each year until 1970. 25,000 professors will be needed for higher education in 1970.

A fourth year is planned in the IPES in order to encourage the recruiting of professors of the "second degré" and save the "agrégés" for Higher Education.

THE TRIUMPH OF SCIENCE:

Last year of the 80,000 students at the University of Paris, there were:

26,000 in Sciences
24,000 in Letters
15,000 in Law
5,000 in Medicine.

The XXth Century is seeing the triumph of science; the "Faculté des Lettres" is changing imperceptibly into a "Faculté des Sciences Humaines". At the "Faculté de Droit" with the creation of the new Master in Economic Sciences, preference goes to the economic sciences. And finally, the reform of medical studies causes profound changes in the life of the "facultés".

AN INCREASE OF 10% IN THE NUMBER OF SCHOLARSHIPS:

If the social origin of students is considered, the evolution of the last 20 years shows a *slight progress toward democratization*, and as the number of students increases, the number of scholarship holders also increases. *For 1960-61 it has been estimated that there will be more than 49,000 scholarship students* (as opposed to 36,000 in 1957-58) who will receive around 10 million "old francs".

REACTIONS OF THE PRESS

THE UNIVERSITY CRISIS:

In the Figaro of September 16, 17 and 18, under the title, "L'Université en crise", Raymond Aron published a series of articles from which we have drawn a few passages regarding the evolution of secondary education:

"provisionally it has been necessary to recruit teachers with such haste that the level of instruction is no longer guaranteed, either because the instructors to whom we have had recourse do not all have the necessary qualifications or because the overcrowding of classes crushes and paralyzes the best professors. But whether or not we suppose that the current crisis has been surmounted, secondary education will not again become what it was. From the very fact of its growth, it has changed in character and function in the University and in the society itself. Secondary education used to be the center of our system; from it everything radiated; toward it everything converged. The 'Aggregation', to the preparation of which professors in the 'facultés de lettres" devoted most of their time, symbolized the primary concern of the 'second degré': everything happened as if the principal task of the 'facultés' (the various schools withing the universities) was to train professors for 'lycées'"

After stating that this conception of higher education is dead - as it ought to be - the author continues:

"The reform... is moreover in the process of imposing itself by itself. The normal path of students will lead from the 'licence' and the certificate of higher studies to the doctorate of the 'troisième cycle'. The normal career of university professors will pass through the successive steps of higher education, 'assistant', 'chef de travaux', 'maître de conférences'. By the same stroke the reorganization of higher education will become possible.

"The 'facultés' have already had to loosen their structure to make way for new subjects. But I often have the impression that the general sense of the transformation is misunderstood. More than ever States need knowledge and scholars, more than ever the 'facultés' must remain centers of culture, keep in close touch with research; more than ever, in spite of numbers, they must aim for quality. But how would they accomplish these tasks of both intellectual and national interest if they continued to give a hybrid competitive examination first place among their concerns?

"The 'lycées' need good teachers, the 'facultés' need scholars: the 'Agrégés' are sometimes good teachers and they often become scholars. But the 'agrégation' as such neither guarantees not facilitates the acquisition of pedagogical or scientific mastery."

FOR YOUTH:

Combat of September 22 comments upon the passages of the Rueff report relating to education in these terms:

"Since in its title the Rueff-Armand Report bears upon the obstacles to economic expansion, it places young people among those natural resources which are the true fortune of a nation and which must be helped to flourish. Human capital has value in the cradle. The financial investments which devolve upon it should constitute the finest, the least deceptive, part of the efforts of our country."

AFTER THE OLYMPIC GAMES

In an interview for "Le Monde" September 15, Jules Ladoumègue suggests "his solution" to the poor French showing at the Olympics:

"University students often seem to me to be too involved in their studies to be able to devote to a sport the time required for championship. Such is the case at the very age when they could become champions.

"In any case a distinction seems necessary to me between sports for competition and sports for health which could moreover be under different administrations. The competitive sports would be reserved to those singled out by the gymnastic instructors."

SORBONNE AND "GRAND" PARIS

"L'Information" in its editorial of September 21 is delighted with the forthcoming creation of a "university ready to welcome the tens of thousands of overflow students who today in Paris find neither adequate learning or suitable lodging" and continues:

"They are thus going to 'double' our ancient Sorbonne and its surroundings, those illustrious 'facultés' of the Latin Quarter which, since the Middle Ages have played so great a role in French thought and, by extension, in European culture...

"Moreover around the new 'facultés', we shall see new centers of practical training, new laboratories, and we shall see arising as if from themselves, gracious constructions and vast 'cités universitaires' for which space is not lacking in the Great Paris of the XXth Century."

THE EDUCATIONAL REFORM

In addition to the usual articles on the reopening of schools, numerous newspapers have expressed their point of view on the educational reform. Thus while analyzing the application of the reform, Girod de l'Ain declared in "Le Monde" of September 9:

"Confronted with opposing passions and blessed with a prudent nature, the 'father' of the reform, M. Jean Berthoin, has given it a light motor and powerful brakes. It is even said that, as the latter seemed still too weak to the partisans of the status quo, the dispute has been carried to the head of State who, in this field, was on the side of brakes. But they are so cleverly placed that, to pursue the comparison, the vehicle can hardly roll.

"But it exists! Will those who are in charge of it want to send it to the junk yard? On the contrary they are determined to improve it. Such is indeed the intention of M. Joxe. But he is persuaded that every innovation requires strong backing. Will he be assured of it? Nothing is less certain. That is why public opinion, especially the opinion of teachers and their unions, of parents of students and their associations, is going to be confronted with a heavy responsibility. If, basing its attitude on the first results which will doubtless be deceptive, it simply demanded a return to the 'good old days', this first reform effort would have little chance of success."

THE HOSPITAL REFORM

A few details on the plan for equipment of university hospital centers (offered by MM. Chenot and Joxe, commenting upon the new status of university hospital personnel):

They confirmed that the application of this reform would be very progressive and would be carried out only in function of the improvements envisioned "in certain hospitals which are decrepit or inadequate". M. Chenot recalled that the plan for the 23 university hospital centers foreseen covered both so-called ordinary

works of modernization, extension or reorganization of hospital services and extraordinary projects aimed at the construction of new buildings necessary for research, teaching and the full-time practice of medicine.

Six University Hospital Centers are proposed for Paris and the provinces with the intention of making them later into six distinct "facultés" of medicine:

The "Necker-Cochin-Enfants Malades" group
The group of the "Hôpital Saint Antoine"
The group of "La Salpêtrière-La Pitié"
The University Hospital Center of Bicêtre Villejuif
A group in Marseille
A group in Lyon.

M. Chenot then offered some details on the "calendrier" of the reform: texts relating to the duties and remuneration of the UHC personnel.

* * *

PARIS - "Le Jardin du Luxembourg"

PROPOS SUR LA LANGUE FRANCAISE

QUELQUES ASPECTS DU VOCABULAIRE DE L'ENSEIGNEMENT *

Dans le précédent numéro d'Education in France, nous avons passé en revue les membres du Corps Enseignant, instituteurs et professeurs ; c'est maintenant le tour de leurs élèves, de subir le même examen. Le terme élève vient du verbe élever. Dans son sens primitif, il s'appliquait à celui qui suivait l'enseignement d'un maître dans une science ou dans un art.

Aujourd'hui il s'applique très largement aussi bien à de jeunes enfants qui préparent le certificat d'études (primaires) qu'à des étudiants qui fréquentent les Grandes Ecoles ou les Universités.

Le disciple (du latin discipulus qui signifie élève) a actuellement une signification plus profonde : il ne se contente pas de suivre un enseignement, il adhère à la doctrine enseignée et il éprouve à l'égard du maître vivant ou mort, qui l'enseigne un attachement fait de respect et de vénération, donc bien plus profond que tout ce qu'éprouve l'élève pour son professeur.

Condisciple, signifie compagnon d'études, mais ce mot a vieilli et les élèves, garçons et filles n'emploient plus aujourd'hui compagnon mais soit camarade, soit copain, copine (féminin irrégulier) lorsqu'ils sont entre eux.

Le nom d'écolier est aujourd'hui réservé aux élèves de l'école primaire et des classes inférieures des lycées et collèges.
Les plus studieux d'entre eux pour rentrer chez eux feront leur chemin ; les autres prendront le chemin des écoliers c'est-à-dire un chemin (au sens d'itinéraire)détourné comme celui que prennent les écoliers qui font l'école buissonnière.

Pour les enfants qui vont à l'école ou rentrent à la maison, le chemin des écoliers ne les mène pas toujours devant le cinéma ou la patisserie mais parfois il leur fait simplement faire un détour par la papeterie du quartier ou s'offrent à leurs regards tous les trésors que le langage officiel appelle pompeusement les fournitures scolaires.

Jetons un coup d'oeil sur l'outillage de l'écolier au travail; sa boîte à outils porte le nom de cartable ; il contient, si le propriétaire est encore très jeune un tableau noir individuel en miniature qui porte le nom de la pierre tendre dans laquelle il est taillé, l'ardoise.
Le plumier se voit de plus en plus délaissé au profit de la trousse, plus pratique pour ranger stylos à plume ou à bille, crayons et gommes.
On trouve encore dans le cartable, des cahiers faits d'un papier où la marge réservée aux corrections et annotations du maître est soigneusement délimitée par un trait rouge vertical tandis que le reste de la feuille porte un quadrillage

* Excerpts from an article by Paul Gilbert, appearing in La Classe de Francais, No. 6.

régulier qui aide le mathémiticien novice à poser correctement ses opérations. Les lignes horizontales sont utiles pour assagir chez l'enfant cette tendance au déviationnisme de plume, ascendant ou descendant et lui permet pendant les premières dictées d'éxécuter l'ordre d'aller à la ligne qui retentit du haut de la chaire.
De plus en plus nombreux, écoliers et écolières poursuivent leurs études après l'école primaire. C'est là ce que le jargon administratif a baptisé l'élévation du taux de scolarité.
Mais en passant, avec ou sans examen d'entrée en sixième du premier au second degré, les élèves changent de titre, ils deviennent des collégiens ou des lycéens.

Aujourd'hui collégiens et lycéens sont souvent désignés indistinctement par leurs professeurs et par les personnes des générations plus âgées sous le nom générique de potaches.

En argot scolaire l'élève qui potasse est celui qui travaille et étudie avec ardeur. Potasser a complètement évincé dans le langage parlé des collégiens et lycéens bûcher et piocher qui ont le même sens. Ces trois verbes ne sont pas nécessairement transitifs.
Parfois les lycéens remplacent potasser par chiader, emprunté au jargon des Grandes Ecoles.

Dans les Grandes Ecoles, les Bizuths désignent les nouveaux ou les élèves d'une classe inférieures.
Selon l'éloignement de leur domicile et les possibilités ou les désirs de leur famille, les lycéens peuvent etre externes, s'ils suivent uniquement les cours, demi-pensionnaires, s'ils prennent en outre le repas de midi dans l'établissement, internes ou pensionnaires s'ils y sont logés et nourris.

Au sommet de la hiérarchie des bons élèves trône le fort en thème qui contrairement à ce que semble indiquer son nom ne se contente pas de briller dans le thème, exercice qui consiste à traduire dans une langue étrangère, vivante ou morte un texte français tandis que la version est la traduction d'un texte de langue étrangère. Le fort en thème serait mieux nommé un fort en tout. Il potasse toutes les matières à fond, qu'elles correspondent ou non à ses goûts en sorte que rien de ce qui est du programme ne lui est étranger.

Qu'il s'agisse de leçons à réciter, de devoirs à faire, de compositions ou d'examens, le fort en thème rupine et souvent il rupine le tonnerre ou bien il rupine à mort ce qui revient au même et signifie qu'il répond vite et bien.

* * *

STATISTICS CALCULATED AFTER THE "BACCALAUREAT":

82.5% of the "bacheliers" undertake higher studies. The "bacheliers" from the philosophy series furnish:

75% of the candidates for "propédeutique lettres"
70% of the candidates for the "licence" in law
48% of the students in the first year of training in pharmacy.

The "bacheliers" from the experimental science series enroll in:

P.C.B. (Physics - Chemistry - Biology) (49%)
First year of pharmacy (46%)
"Propédeutique sciences" (32%)
"Propédeutique lettres" (21%)
Law (16%)

The "bacheliers" from the elementary mathematics series turn toward:

"Propédeutique sciences" (52%)
P.C.B. (Physics - Chemistry - Biology) (13%)
"Propédeutique lettres" (4%)

***

THE "BACCALAUREAT" ORAL:

So that chance will not play a large role, the oral will consist in a conversation with the student, making it possible for the examiner to get a better idea of the candidate's knowledge.

***

A NEW DEGREE:

An important event for the return to universities: the creation of a "licence ès sciences economiques". The "Faculté de droit" will henceforth prepare students

for two different "licences": the "licence en droit" and the "licence ès sciences economiques". The first year is the same for both, then three years of specialization for which the program includes, in addition to the traditional legal subjects necessary to the economist, new courses such as national accounting, economic demography and the history of economic achievements. But it is especially the place reserved to statistics and mathematics that gives these studies a new character.

***

IPES: FINALLY, FOUR YEARS FOR THE IPES

Thanks to the decree of September 12, the "ipesiens" who have obtained the teaching "licence" can now, during their year of preparation for the CAPES and CAPET, be authorized by the rector upon the proposal of the Dean of the "Faculté" or the director of the IPES, to prepare the "agrégation" at the IPES during a fourth year of study. The number of students thus authorized to benefit from the fourth year, will represent a quarter of the total number. Thus under very advantageous conditions the various IPES open broad avenues to the "Agrégation".

***

"FACULTE DES LETTRES ET SCIENCES HUMAINES": A CORPS OF "ASSISTANTS" IS CREATED FOR DECEMBER 1, 1960

In the "propédeutiques" the assistants will be expected to organize and direct small classes in practical exercises and to offer complementary explanations under the control of the professors and "maîtres de conférences" charged with the fundamental part of this instruction. They must also contribute to the research work of the research departments with which they are associated.

***

MODERN LETTERS:

The "agrégés" in modern letters, who before the "agrégation" had given instruction in Latin or a living language, can now teach Latin or living languages (at the same time as French) in the modern sections.

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"PROMOTION SOCIALE": ELECTRONICS AND NUCLEAR PHYSICS AT THE "CONSERVATOIRE NATIONAL DES ARTS ET METIERS:

"Promotion Sociale" was organized in 1959-60 with a nine month study session on electronics. After this, the workers return to their jobs and can take the general examination for engineers. The interest of this type of instruction: it makes it possible to reduce by a year preparation for the engineering degree from the CNAM, which requires 5 to 6 years of study for a worker possessing the equivalent of a "baccalauréat".

The year 1960-61 will continue the program with 2 specialities: electronics and nuclear physics.

***

CREATION OF A HIGHER COUNCIL OF VETERINARY TRAINING:

Instructed to study all questions concerning the organization, system and functioning, programs and methods of teaching in the national veterinary schools.

***

"COLLEGES SCIENTIFIQUES":

The creation of four university scientific "collèges", at Chambery, Le Mans, Orleans, Saint Etienne, has been announced.

***

FOUR EUROPEAN SCHOOLS THIS FALL:

That in Luxembourg, created in 1953, and the one in Brussels, established in 1958, already have 800 and 850 students belonging to 15 nationalities. Two new schools have been founded, one in Mol in Belgium and the other at Valence Espra in Italy.

***

TEACHING OF ATOMIC LAW IN EUROPEAN UNIVERSITIES was requested by Euratom after the International Conference in early September.

***

THE INSTITUTE OF INTERNATIONAL COMMERCE, created in 1957, under the patronage of the "Direction Générale de l'Enseignement Technique" and the National Center of External Trade. It aims at both basic and advanced training. Subjects taught: the State and exports; financing of exportation; the control of external trade; business and exportation; international economic organizations.

***

UNIVERSITY-INDUSTRY: THE FORTHCOMING CREATION OF A CENTER OF INDUSTRIAL RESEARCH CARRIED OUT UNDER CONTRACT (C.R.I.C.)

This center, the creation of which was just announced by Rector Capelle, purposes to collect documentation on industry, to help small and medium sized enterprises analyze and formulate their research problems, to study these problems either in its own laboratories, or in university or private laboratories. The industrialist could thus be the only one informed of the work done, if such is his desire.

The C.R.I.C. which would employ about 100 people (about 30 would be researchers) would be created under the patronage of the industry of Lyon and the I.N.S.A. (The Institute, aside from its principal task of training engineers, undertakes tests and research for public or private industries.)

***

THE CENTER OF ROMANESQUE PHILOLOGY AND ROMANESQUE AND CONTEMPORARY FRENCH LANGUAGE AND LITERATURE OF THE UNIVERSITY OF STRASBOURG has been created to promote scientific research with the limits of its program. The Center avails researchers of the important resources of the university and the libraries of Strasbourg. The teaching of Romanesque subjects in Strasbourg is, as a matter of fact, among the most diversified in France.

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THE "INSTITUTE OF ECONOMIC AND SOCIAL DEVELOPMENT" OF THE UNIVERSITY OF PARIS (96 3d. Raspail, Paris 6e), created in 1957:

Its purpose is to promote all studies and research relating to economic, social, financial, legal, administrative or other problems presented by the current situation of countries in the process of development; to organize all instruction considered useful; and possibly to grant diplomas recognizing this instruction under conditions to be determined by decree of the Minister of National Education.

Thus research and instruction are the two essential activities of the Institute. They imply a third: to inform public opinion and specialists in problems of the development of states, of facts and questions.

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AT THE "ECOLE NATIONALE D'ADMINISTRATION" a session devoted to the training of Moslem administrators:

It will last 6 to 7 months and is designed to perfect the administrative training of the elite of the "Fonction Publique".

***

EDUCATION IN ALGERIA:

The 1958 plan for increased school facilities provided for the creation of 2,000 new classrooms for 1960. According to a declaration of Rector Mayer, Director General of National Education in Algeria, there are more than 3,000 being put into use this fall; 1,800 new posts for instructors were foreseen; there are now more than 2,000; all of this makes it possible for 120,000 more children to attend school this year than last. The rhythm for construction has thus reached 8 classrooms a day. Therefore this year the majority of six-year olds will have the possibility of attending school. On the whole 900,000 young Algerians will be in school in 1960 as opposed to 780,000 in 1959. If to this figure is added the 130,000 children who are taught in the 1,385 schools opened by the Army, more than a million children are in school in Algeria this fall. At the end of 1963, concludes M. Mayer, when the "Plan de Constantine" will attain its fulfillment, 2,500,000 children will attend school.

***

EDUCATION OVERSEAS:

Despite the difficulties met in France itself, the Ministry of National Edu-

cation has made a special effort to recruit nearly three thousand teachers to fill the 900 vacant posts in the "Communaute", in Togo and the Cameroons, the 1,800 empty posts in Morocco and Tunisia, the 200 posts in Cambodia, Laos and Vietnam, and the 100 posts which have become free in other foreign countries.

This recruiting effort has been tied to a program of information and, with the co-operation of the "Centre pédagogique" of Sèvres and the universities of Bordeaux and Aix-en-Provence, a training effort to initiate more than 1,000 departing teachers to the problems of Latin America, tropical Africa and Magreb.

***

VIET-NAM: Thirty thousand students in the secondary French public and private schools. Primary education (with the exception of the elementary classes of the "lycées") is entirely Vietnamese.

Two large "lycées" with 4,000 students are open in Saigon and one "lycée" of 1,500 students in Dalat, with primary annexes. Finally, there are two "collèges", in Tourane and Khatrang. Together these establishments group nearly 11,000 students who are for the most part Vietnamese (83% in secondary education), to which must be added the 20,000 pupils of private French or Franco-Vietnamese schools. French establishments are, moreover, far from able to accept all the students who wish to enroll.

In Vietnam there are 600 French professors and instructors, of whom 350 are sent out from France. Needs have grown rapidly: the total number of school children in Vietnam went from 65,000 in 1957 to 175,000 in 1960.

The number of students of higher education went in the same period from 5,000 to 9,500, and two new universities have been opened, in Dalat and in Hue. Thirty percent of these students came from French establishments. Forty-five professors of letters, sciences, law and medicine teach at the University of Saigon where in most of the "facultés" courses are given in French. French professors play a large role in the "faculté de pédagogie", an establishment comparable to one of the French "Ecoles normales supérieures". It accepts students only after a competitive entrance examination and assures the training of Vietnamese teachers for all subjects of secondary education.

***

UNIVERSITY LIFE: an exchange of professors between France and Germany:

Twenty-five French professors and 182 assistants will teach for three months in German secondary schools. An equal number of German professors and assistants will teach in French "lycées".

***

THE THIRD INTERNATIONAL CONFERENCE OF "UNIVERSITES POPULAIRES", which attracts about one hundred delegates from Europe and South America, purposes to study and compare the teaching methods and pedagogical techniques applied in the various countries and to consolidate international co-operation between the people's universities.

***

COLLOQUY ON THE PROBLEMS OF THE INDIVIDUAL AT THE ABBEY OF ROYAUMONT:

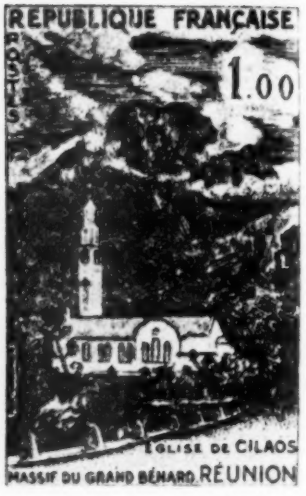
Under the presidency of M. I.Meyerson, the individual will be studied according to a double perspective: his history, his elaboration through religious events, social and legal institutions, language and art; and his present form, his structures, his troubles today.

***

AN INTERNATIONAL PHILOSOPHICAL COLLOQUY ON DIALECTICS, presided by Gaston Berger at the Abbey of Royaumont, will discuss the relations of dialectics to logic and scientific thought and the problems and categories of a "Marxist History of Marxism".

The "Abbaye de Royaumont"

correspondence



In reply to several letters asking us how the provisions of the Reform of Education in France will be applied with the reopening of school in 1960, we should like to specify that the following measures will enter into effect in the classes of the "6e" alone:

1) A FIRST TERM WITHOUT LATIN:

Whatever the school ("lycée", "collège", "complementary course"), instruction given in the various sections is not differentiated during the first term. This term is devoted to "the consolidation of elementary knowledge". The teaching of Latin in the sixth grade does not therefore begin until the second term.

2) ESTABLISHMENT OF THE SYSTEM OF OBSERVATION AND ORIENTATION :

"The principle of the reform is the institution of a school program organizing the systematic observation of children in order to orient them toward studies which, while assuring them all the development of which they are capable, will correspond best to their own interests and to the requirements of national life."

To attain this objective the following steps are foreseen:

a) the establishment of individual student files.

Parents should receive a questionnaire bearing upon their family life, behavior of the child at home, his health, his aptitudes, his tastes, the material conditions of his work at home, etc. Families are not compelled to reply. But it must be hoped that they will willingly co-operate with an inquiry which should make it possible for teachers to know their children better.

The information from the family will constitute the first part of the individual file. The principal professor will add observations made by other teachers and educators.

b) Nomination of a principal professor.

Designated by the head of the school, his job is to "coordinate the teaching of the various professors of the class, to assemble their observations and to es-

tablish useful ties with the families in order to inform and advise them".

c) Monthly meetings of the "conseil de classe"

"From the first term of the first year of the 'cycle d'observation' and throughout the duration of the 'cycle', the teachers meet at least once a month in a class council under the direction of the principal professor. *This council progressively establishes the considered opinions which it proposes that the council of orientation give to families at the end of the first term and, if need be, in the course of the following terms, and especially at the end of the sixth grade, in any case at the end of the 'cycle'.*"

d) Creation of "conseils d'orientation"

A council of orientation which meets at the end of each term has been set up for each orientation group. Each group comprises five to eight classes of 6th or 7th graders. In each group classes from "lycées" and complementary courses are combined.

The council comprises "two teachers per class (one, the principal professor), a representative of educational and professional orientation and persons able to give a considered opinion on the pupils, in particular the doctor from the student health service."

Taking note of the opinions offered by the class councils, the council of orientation establishes the desired consensus of these opinions and gathers family observations. Its essential job, at the end of the first term and especially at the end of the "cycle d'observation", is "to define the types of education which seem best suited to the aptitudes of the pupil."

A departmental council of orientation has also been created.

3) A FIRST COUNCIL OF ORIENTATION AT THE END OF THE FIRST TERM

"At the end of the first term, the council of orientation gives the family a first opinion on the type of studies which seems best for the child. The family need not take this advice". That is to say that the child can be enrolled in a classical section if his family so wishes even if modern instruction is recommended by the council of orientation. In fact, the changes of establishment or section which should logically result from this provision will rarely take place.

4) WORK BY GROUPS OF 24 STUDENTS

The Billeres Reform Project for education provided that the number of students in the classes of the "cycle d'orientation" would be limited to 24 children. Considered too costly, this provision has been only partially revived. With a weekly schedule of 24 and a half hours, instruction in groups if a maximum of 24 students will be given during eight hours the first term (then seven for the classical section, eight for the modern and technical sections). It has been indicated expressly in the official instructions (circulars of June 23, 1960) that this innovation must not authorize the heads of schools to increase the number of pupils in the classes for the rest of the schedule. This number is still set at a maximum of 40 pupils.

These hours in small groups are devoted to practical exercises and scientific experiments.

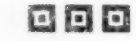
5) CREATION OF A PROGRAM OF SCIENTIFIC EXPERIMENTS

Throughout the entire year of the "6e" for the students of the modern and technical sections and during the first term only for those of the classical section, one curriculum hour is devoted to a new item: scientific experiments.

They "are designed to give the pupils, through observation and experimentation, an elementary initiation to scientific methods and a taste for science, and to contribute to the possible detection of their aptitudes in scientific and technical matters".

6) UNCHANGED CURRICULA

The curricula of classes of th 6th grade bear no notable changes. The only thing decided was to make courses in history and geography more similar in the "lycées" and comolementary courses. Curricula were not made lighter as has been foretold in the presentation of motives for the educational reform.



recent books and audio visual material

LAW

FRANCE: No. I of "THE AMERICAN SERIES OF FOREIGN PENAL CODES"

The FRENCH PENAL CODE of 1810, amended in 1959, has been translated into English by J.F. Moreau and G.O.W. Mueller with an introduction and historical notes by Marc Aucel, Justice of the French Supreme Court and Director of the Criminal Law Section of the Institute of Comparative Law in Paris. In the introduction, M. Aucel, an outstanding legal authority, presents a concise history of French Penal Law. This volume is the first in a series of translations into English; it is a part of the Comparative Law Project established by the New York University School of Law. The series offers students of criminal law, comparative law, political science and sociology not only a history of penal laws but also an insight into the society and customs of various nations.

"The most important reasons for the decision of the School of Law of New York University to establish its comparative Criminal Law Project are as follows: by joining the international community of the policy makers of criminal law, by establishing corresponding means of communication and exchange, and by making available to American institutions and individual concerns the achievements of others, American Criminal Law will derive similar benefits for the ultimate progress of our system."

Published by Fred B. Rothman and Co., South Hackensack, New Jersey.

GEOGRAPHY

ATLAS INDUSTRIEL DE LA FRANCE: by Robert Giry

This book gives an over-all picture of French industry and could be entitled "French industry in figures and maps". For each group of industries we find: 1) a detailed note on the industries recalling their place in French

economy; 2) a statistical table by "départements"; 3) a map giving their distribution and relative importance in France.

ASPECTS DE LA FRANCE, a survey of contemporary civilization: by Karl G. Bottke and Georges J. Joyaux.

The authors have selected a variety of topics concerning France as the basis for short chapters that are intended to inform the student of significant aspects of modern French life and culture. Questions are provided for each chapter; the book also contains a brief historical table, a list of realia, and a complete vocabulary.

HISTORY

L'ORIENT ET LA GRECE - CLASSE DE 6e: by Robert Philippe

This book offers an entirely new conception to illustrate current concerns in the teaching of history which must be more attentive in the future to daily life, and the works of men, to their religious and artistic efforts to escape from rivalries and dissension.

The old tendency to cut up history into chronological and geographical bits is replaced by a more coherent presentation.

Each lesson paragraph is associated with pictorial or written documents supporting the developments discussed: on the right hand pages the text unfolds, on the left are documents.

Librairie classique Eugène Belin.

THE FIRST BOOK OF FRANCE: by Gerald Gottlieb

Mr. Gottlieb describes French life today; yet makes references to Charlemagne, Lafayette, Joan of Arc and Napoleon and other great figures from France's rich past. "First comes Paris", says the author who shows us the Paris of birds and bridges, students and statesmen, cafés and churches. But he continues, "France is more than Paris", and describes the chateaux of the Loire, the prehistoric cave paintings of the Dordogne region, and many other beautiful historic places in France. He writes of French family life, schools, sports and holidays. The book is illustrated with lively drawings by Alan Moyles.

LITERATURE

NEW FRENCH WRITING, edited by Georges Borchardt

New French Writing presents a selection of the most representative texts of French literary tendencies of the last two or three years. Some of these works have not yet been published even in France. "In other words", says the editor, "the aim of New French Writing is to give an idea of the French literary situation today and a foretaste of that of tomorrow..."

The works chosen speak for their authors: thus a "study of Tintoretto" represents Jean-Paul Sartre, who is particularly interested by the artist's role in society and whose "Séquestrés d'Altona" was one of the highlights of the past theatre season in Paris. "Tibère" is the latest play by Félicien Marceau, who wrote "L'Oeuf" and "La Bonne Soupe" and shares with Jean Anouilh the honor of being the most popular playwright in France.

Among the other texts chosen for New French Writing are "Le Rêveur", a comedy by Jean Vauthier; poetry by Yves Bonnefoy and Marc Alyn; "L'Asile", a novel by Pierre Gascar, the author of "Bêtes sauvages" and winner of the Prix Goncourt; "Degrés", a new novel by Michel Butor who won the Prix Renaudot with "La Modification", "Dans le Labyrinthe" by Alain Robbe Grillet, the theorist of the "roman nouveau"; and finally, "La Révocation de l'Edit de Nantes", a novelette by Pierre Klossowski, the author of a book on Sade and a translation of Kafka's Journal.

New French Writing will satisfy the curiosity of those who, after the 2nd World War, discovered a new, vital and often mordant French literature.

REPORTS OF THE C.N.R.S. AND THE COMMISSARIAT A L'ENERGIE ATOMIQUE

We have available for all those interested:

LE RAPPORT DE CONJONCTURE DU CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (C.N.R.S.)

In this report French researchers specify the needs in each field and envision desirable developments for the years to come. The reports of each section form a "general picture of the science", intended to enlighten the Direction of the C.N.R.S., the Délégation générale à la Recherche Scientifique et Technique and the government, by presenting the "great problems" of research.

An analytical index of tables of comparison, a recapitulatory statement of figures and a synthesis of the proposals made will be published later.

LE RAPPORT ANNUEL, 1959, DU COMMISSARIAT A L'ENERGIE ATOMIQUE

This report specifies that the goal of the French atomic program is to prepare for massive introduction of atomic energy into the country's economy. The year 1959 was notable for the divergency of the G-3 stockpile, the full power functioning of the G-2 and the intensive operation of the plutonium extraction station. It saw the growth of the Melusine stockpile and the Grenoble Center, the regular functioning of the large Saturn Accelerator and the Plote station in Toulouse.

The last seven years have seen the personnel of the Atomic Energy Commission increase sixfold and its budget grow to 2% of the national one. They have also witnessed structural modifications and regroupings of technical departments under two big administrative forces, the Direction of Physics and Atomic Stockpiles and the Direction of Nuclear Materials and Combustibles. The report also mentions projects for the future in both the economic and military fields.

AUDIOVISUAL MATERIAL

Two records of French poetry and one of French theatre, originally recorded in France, are for sale through SPOKEN ARTS, Inc., 95 Valley Road, New Rochelle, New York.

- GOLDEN TREASURY OF FRENCH VERSE

Poems from French literature, ranging from Charles d'Orléans and Ronsard to Apollinaire. They are read by Jean Vilar, one of France's foremost actor-directors.

- GOLDEN TREASURY OF FRENCH DRAMA

The scintillating French theatre couple, Jean-Louis Barrault and Madeleine Renaud, interpret scenes from Molière, Marivaux, Beaumarchais and Musset. The French and English texts are included.

- GOLDEN TREASURY OF NERVAL, BAUDELAIRE, VERLAINE AND RIMBAUD

A rich selection from the four great 19th century French "poètes maudits", lyrically interpreted by four great French actors, Jean Vilar, Jean Desailly, François Périer and Sacha Pitoëff.

FRENCH DOCTORAL THESES

FACULTE DES LETTRES ET SCIENCES HUMAINES

DOCTORAT D'ETAT:

Doctorat d'Etat: a prerequisite to teaching in French universities. Years of preparation and the contribution of a really significant thesis and a complementary shorter thesis are required for this degree. American students wishing to become candidates for the State Doctorate in Letters, Science or Law, must possess an M.A. or M.S. degree or its equivalent from an accredited American college, university, or technical school of good standing.

Jacques DUPUIS - Oct. 29, 1960 — Principal Thesis: "Madras and the North of Coromandel. A study of Indian life within a geographic setting."

Complementary Thesis: "The Oriental Ghâts and the plain of Coromandel."

DOCTORAT D'UNIVERSITE:

Doctorat d'Université: conferred by the Faculties of Letters, Law and Science. Prerequisite: the French "Licence" or the M.A. degree. Time required: usually two years. A thesis must be written in French, and an oral examination taken.

Graeme Douglas WATSON - June 4, 1960 — Thesis: "Romain Rolland and the meaning of humanity according to 'Jean Christophe'."

Ruth MURPHY - Oct. 8, 1960 — Thesis: "Saint François de Salles and Christian courtesy."

Leib Moises ROZITCHNER - Oct.20,1960 — Thesis: "The Ethical significance of the effective structures in the philosophy of Max Scheler."

DOCTORAT DU III^{e} CYCLE

Michel de CERTEAU — Thesis: "The 'Memorial' of the Blessed Pierre Favre."

Paul COCHOIS — Thesis: "Berulle, mystic initiator. The vows of servitude."

M. DETIENNE — Thesis: "The Notion of "Δ AIMON" in ancient Pythagorism. From religious thought to philosophical thought."

Helene GLYKATZI-AHRWEILER — Thesis: "Research on the Administration of the Byzantine Empire in the IX-XI Centuries."

Helene KAKRIDIS	Thesis: "The Notion of friendship and hospitality in Homer."
Elizabeth LABROUSSE	Thesis: "Inventory of the correspondence of Pierre Bayle."
A. JAUBERT	Thesis: "Origin - Homilies on Josua."
Lucien JERPHAGNON	Thesis: " Characterology of Pascal."
Jacqueline MARQUET	Thesis: "The relations of Spain with Latin America, 1945-1960."
René PASSERON	Thesis: "Pictorial work and the functions of appearance."
Emile POULAT	Thesis: "Utopia or anticipation? 'The Journal of a priest of the day after tomorrow' by Abbe Calippe (1902-1903)."
Paul POUPARD	Thesis: "The unpublished correspondence between Mgr. Antonio Garibaldi, chargé d'affaires, then internuncio in Paris, and Mgr. Césaire Mathieu, Bishop of Langres, then Archbishop of Besançon, 1832-1845. Contribution to the Study of ecclesiastical administration in France under the July Monarchy."
M. SEMIDEI	Thesis: "Great Britain in French opinion during the war years, 1940-1944."
Jean-François SIX	Thesis: "A Laic Saint: Emile Littré."

PUBLISHED THESES DEPOSITED JULY 11, 1960

Francis BAR	Complementary Thesis: "The Foolish Shepherd - Pastoral Burlesque."
Yvon BELAVAL	Principal Thesis: "Leibniz, Critic of Descartes."
Paul BOIS	Principal Thesis: "Peasants of the West - From economic and social structures to political options since the revolutionary era in the Sarthe region."
	Complementary Thesis: "Notebooks of grievances of the Third Estate of the seneschalsy of Château-du-Loir for the Estates General in 1789."
Jean BOUVIER	Complementary Thesis: "Studies on the Krach of the Union General (1878-1885)."
Stanislas BRETON	Principal Thesis: "Phenomenological approaches of the idea of being."

Raymond CANTEL	**Complementary Thesis:** "Prophetism and Messianism in the work of Antonio Vieira."
Roger BASTIDE	**Principal Thesis:** "The Afro-Brazilian Religions - contribution to a sociology of the interpenetrations of civilizations."
Bernard BLIGNY	**Principal Thesis:** "The Church and religious orders in the realm of Burgundy in the XIth and XIIth Centuries."
Pierre CHAUNU	**Principal Thesis:** "Seville and the Atlantic (1504-1650) Interpretive part. - Structures and conjuncture of the Spanish Atlantic and the Spanish-American Atlantic (1504-1650)."
	Complementary Thesis: "The Philippines and the Pacific of the Iberians (XVIth, XVIIth, XVIIIth Centuries). Methodological Introduction and Indices of Activity."
Jean DESHAYES	**Complementary Thesis:** "The Z Quarter in Mallia."
André DESSENNE	**Complementary Thesis:** "The E House in Mallia."
Robert ELLRODT	**Complementary Thesis:** "Neoplatonism in the poetry of Spencer."
Georges FOURRIER	**Principal Thesis:** "Thomas Mann - The Message of a Bourgeois Artist (1896-1924)."
Robert LAURENT	**Complementary Thesis:** "The Town Dues of Dijon in the XIXth Century."
Gabriel MANESSY	**Principal Thesis:** "Morphology of the name in Bwami (bobo-oulé). Dialect of Bondoukuy."
Frédéric MAURO	**Principal Thesis:** "Portugal and the Atlantic of the XVIIth Century (1570-1670). Economic Study."
Irène MELIKOFF	**Principal Thesis:** "The geste of Melik Danismend. Critical Study of Danismend name. Vol. I. Introduction and translation."
Max MILNER	**Principal Thesis:** "The Devil in French Literature from Cazotte to Baudelaire (1772-1861)." (Vol. I and II)
Jean MOUROT	**Principal Thesis:** "Chateaubriand. Rhythm and Sonority in 'Les Mémoires d'outre-tombe' - The genius of a style."
Evanghélos MOUTSOPOULOS	**Complementary Thesis:** "The problem of beauty in the work of Pétros Vraïlas-Arménis."

Jean PIGNON	Complementary Thesis: " The race of Poitou. A collection of texts in the patois of Poitou in the XVIth Century. Edition with introduction, notes and glossary."
Yvonne ROSENGARTEN	Principal Thesis: "The Sumerian concept of consummation in economic and religious life. Linguistic and Social Study based on Presargonic texts of Lagas."
	Complementary Thesis: "The system of offerings in Sumerian society, according to Presargonic texts from Lagas."
Jean ROUCH	Principal Thesis: "Essay on the Songhai religion."
Dominique SOURDEL	Principal Thesis: "The Abbasid Bizierate from 749 to 936 (132 to 324 of the Hegira)."
Rolf STEIN	Principal Thesis: "Research on the epic and the bard in Tibet."
	Complementary Thesis: "The ancient tribes of the Sino-Tibetan markets."
Maurice WOLKOWITSCH	Principal Thesis: "The regional transporting economy in Central and West-Central France."
René ZAZZO	Principal Thesis: "Twins, the pair and the individual."
	Complementary Thesis: "The Methods of Twins."
Dominique ZAHAN	Principal Thesis: "Societies of Bambara initiation. The N'Domo - The Koré."
André PARREAUX	Principal Thesis: "William Beckford, author of Vathek (1760-1844). Study of literary creation."
Jacques SCHWARTZ	Principal Thesis: "Pseudo-Hesiodia - Research on the composition, diffusion and ancient disappearance of works attributed to Hesiod."

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SUMMARY OF THE DOCTORAL THESIS OF YVON BELAVAL (Doctorat d'Etat), June 4, 1960 - "LEIBNIZ, CRITIC OF DESCARTES".

FIRST PART: The spirit of method. Here one sees intuitionism and formalism oppose each other. A conversion of the spirit for Descartes, method is an operative technique, an Organon, for Leibniz: the first identifies certainty with evidence; the second dissociates them; doubt, here essential, is there no more than a rhetorical process.

SECOND PART: The mathematical model. By his theory of the idea, opposed to that of Descartes, Leibniz substitutes definition for intuitive perception, the symbol for the imagined, and rejects the precepts of the Discours. Descartes remains a geometrist: his conception of number is based on size; which makes mathematics the science of order by measure. Leibniz is an arithmetician: he derives quantity from quality, which makes mathematics a promotion of Logic, a science of order.

THIRD PART: The vision of the world. Here it is the doctrine of what is possible that controls the differences. For Descartes, since that which is contingent depends only on divine will, the search for final causes is banished from Physics. For Leibniz, on the contrary, finality is the root of contingency. The result is that the rationality of that which is real is no longer the same thing at all to the two philosophers. However, they meet again in the same failure when it comes to mathematizing Physics: this, because they have retained from mathematics only the certainty of their method and not what makes the exactness of their language. Their Physics is Pre-newtonian.

Gallimard, Bibliothèque des Idées, Paris, 1960, p.560.

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SUMMARY OF THE DOCTORAL THESIS OF JEAN MOUROT (Doctorat d'Etat), June 27, 1960 - "CHATEAUBRIAND: RHYTHM AND SONORITY IN 'LES MEMOIRES D'OUTRE TOMBE' - THE GENIUS OF A STYLE".

To define the style of a writer, or rather his personal mark, should be the goal of all literary criticism, and it is, in any event, the ambition of the present work. The author has hoped to achieve it by starting with those elements which make a style, like a gesture and a voice, a word with recognizable inflections: rhythm and sonority. He envisions them in the masterpiece of one of the French writers of prose whose style is the most "signed", and according to a method which differs from that used in studies previously devoted to these two aspects of literary language. Beyond the effects of rhythm and sonority which play on the surface of "Les Mémoires d'Outre-Tombe" he strives to grasp, by going back as far as the first works of Chateaubriand, the constant movements, the characteristic timber; he discovers their source and definition - taking care to keep the analysis on the level of phonetic elements alone - in the very imagination of the writer and in his revealing obsessions, the great invariable themes which represent his attitude toward the world. The reader thus penetrates to the heart of literary creation, there where Chateaubriand's mind wove this completely personal association of images, movements and privileged sounds, which makes the Chateaubriand accent, the genius of his style.

This work was published in Paris by the Librairie Armand Colin in September, 1960. p. 371.

Une revue pour les établissements d'enseignement
nique, économique et commercial : SECTIONS COM
CIALES d'écoles nationales professionnelles
et collèges
des études économique
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LE COSMÈTE

L'AMI
DE L'INSTRUCTION PUBLIQUE,

PUBLIÉ

PAR J.-H. VA

ment à L'Éducation Nati
N° 2 DU 10 JANVIER 1957

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PRÉSENTÉS
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AU NOM DU COMITÉ
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1 Avril 1792.

DE L'ASSEMBLÉE NATIONALE.

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des 2, 3 et 4 Janvier 1946

Conférence

La Démocratisat
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Rapport de M. André ME
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ÉMILE,
OU
DE L'ÉDUCATION.

Par J. J. ROUSSEAU,
Citoyen de Genève.

Sanabilibus ægrotamus malis; ipsique nos in rectum genitos natura, si emendari velimus, juvat.
Sen. de ord. L. II. c. 13.

TOME PREMIER.

A AMSTERDAM,
Chez JEAN NEAULME, Libraire.
M. DCC. LXII.
Avec Privilege de Nosseign. les Etats de Hollande & de Wt Offrise.

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